

IOANNISYAN, Ashot Isayevich, prof., doktor tekhn. nauk; VERTSMAN, G.Z.,
kand. tekhn. nauk; ~~PEROV~~, V.I., kand. tekhn. nauk; BEL'EN'KIY, N.P.,
kand. tekhn. nauk; KHITROV, P.A., tekhn. red.

[Engineering research and construction of railroads] Izyskaniia i
postroika zheleznykh dorog. Izd.2., perer. Moskva, Gos. transp.
zhel-dor. izd-vo. Pt.1. [Engineering research and planning]
Izyskaniia i proektirovanie. 1958. 466 p. (MIRA 11:10)
(Railroads--Construction)

VERTSMAN, G.Z., kand.tekhn.nauk; MILEN'KIY, V.D., kand.tekhn.nauk
PETROV, V.I., kand.tekhn.nauk

"Principles of designing railroads with electric and diesel traction"
by G.I. Chernomordik. Reviewed by G.Z.Vertsman, V.D.Milen'kii,
V.I. Petrov. Transp. stroi. 10 no.9:60-61 S '60. (MIRA 13:9)
(Railroad engineering)
(Chernomordik, G.I.)

ARTEM'YEV, S.P.; APANAS'YEV, L.L.; BELOUSOV, I.I.; BENENSON, I.M.; BRONSHTEYN,
L.A.; BUYANOV, V.A.; VELIKANOV, D.P.; VERKHOVSKIY, I.A.; GORINOV,
A.V.; GOBERMAN, I.M.; DAVIDOVICH, L.N.; DEGTAREV, G.N.; ZVONKOV,
V.V.; KALABUKHOV, F.V.; KOMAROV, A.V.; KUDRYAVTSEV, A.S.; LIV'IANT,
Ya.A.; PETROV, A.P.; PETROV, V.I.; TARANOV, A.T.; TIKHOMIROV, N.N.;
FEDOROV, V.F.; CHUDINOV, A.A.; SHUPLYAKOV, S.I.; YANKIN, Yu.S.

Anatolii Pavlovich Aleksandrov; obituary. Avt.transp. 38 no.9:57
S '60.

(MIRA 13:9)

(Aleksandrov, Anatolii Pavlovich, 1903-1960)

PETROV, Vsevolod Ivarovich, kand. tekhn. nauk; EISENSTADT, L.I.,
red.

[Transportation and economic ties of the U.S.S.R. Transportno-ekonomicheskie svyazi SSSR; sbornik statei. Moskva, Transport, 1965. 170 p. (1965)]

1. Moscow. Institut kompleksnykh transportnykh problem.

1. PETROV. V.I.

2. USSR (600)

Enims / Experimental Scientific - Research Institute of Metal-Cutting Machine Tools/
"Typical Circuits of Electric Control for Machine Tools" Stanki i Instrument 12 No. 4, Apr
1941.

9. Report U-1503, 4 Oct 1951

PIIRON, V. I., Engr. Cand. Tech. Sci.

Dissertation: "Investigation of Dynamic Properties of Elastic Systems of the Type of a Rod with a Mass of a Rod." Moscow Order of Lenin Power Engineering Institute and V. I. Nalanda, 1960.

SC: Yecherneyskyaya, 1960 (in part #10/30)

LIST AND INDEX CIPHERS																										PROCESS AND PROPERTY INDEX																										SPEC AND ITEM CIPHERS																									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
SA Solution of the dynamic equation of an electric drive with consideration of mechanical losses. Petrov, V. I. AND Petrov, I. I. <i>Vestn. Elektrom.</i> (No. 3) 8-13 (1948) in Russian.—General formulas for max., average and r.m.s. values of transmission torque and for the corresponding efficiencies are derived. Practical application is simplified when assuming transmission losses to remain as at no load and replacing varying loads by a corresponding average constant load. A. L.																																																																													
AS 51 A METALLURGICAL LITERATURE CLASSIFICATION																																																																													
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Р. И. Р. И. Р. И.

BUYLOV, A.Ya., professor, doktor tekhnicheskikh nauk; PETROV, V.I.,
kandidat tekhnicheskikh nauk.

"Electrical control equipment." V.A.Bulgakov. Reviewed by A.IA.Bui-
lov, V.I.Petrov. Elektrichestvo no.1:89-91 Ja '49. (MLRA 7:10)

1. Vsesoyuznyy zaachnyy energeticheskiy institut.
(Electric controllers) (Bulgakov, V.A.)

PETROV, V. I. .

PA 39/49T29

USSR/Electricity
Cranes, Electric
Drives, Electric

Apr 49

Review of A. G. Mekler's 'Electric Drive for
Crane Machinery,' "Dr I. I. Petrov, Cand Tech Sci,
Head of Chair of Elec Drive, All-Union Power Eng
Comm Inst, V. I. Petrov, Cand Tech Sci, Moscow
Higher Tech School Imeni Bauman, Dr L. B. Geyler,
Cand Tech Sci, Sr. Sci Collaborator (TsentELA),
M. M. Sinyavsky, Chief Engr, "Dynamo" Factory Imeni
Kirov, Ye. A. Leybovich, "Dynamo" Factory Imeni
Kirov, 2 pp

"Elektrichestvo" No 4

39/49T29

USSR/Electricity (Contd.)

Apr 49

Highly critical review of subject book. Author
Aid not test a single crane motor, either in
laboratory or in industry. All of his calculations
(most of which were erroneous) were for models.
Concludes that publishing house made a mistake in
publishing book.

39/49T29

PETROV, V. I.

Torgovlia furazhom [Forage trade]. Moskva, Gostorgizdat, 1953. 48 p.

SO: Monthly List of Russian Accessions, Vol 6 No 6 September 1953

ABADZHI, K.I.; BOYTSOV, A.N.; VOLOSEVICH, F.P.; GOBERMAN, P.N.; KUTAY, A.K.;
MARINSKIY, F.I.; ODING, G.A.; RUBINOV, A.D.; SHFYURMER, G.A.;
BRZHEZINSKIY, M.L., kandidat tekhnicheskikh nauk, retsenzent; ~~PETROV,~~
~~V.I.~~ inzhener, retsenzent; KEMPINSKIY, M.M., inzhener, redaktor;
LEYKINA, T.L., redaktor izdatel'stva; POL'SKAYA, R.G., tekhnicheskij
redaktor

[Reference manual for production control in machine building] Spravochnik po proizvodstvennomu kontroliu v mashinostroenii. Pod obshchei red. A.K.Kutai. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 670 p,
(Machinery industry) (MLRA 9:12)

PARAKHONSKIY, B.M.; PETROV, V.I., kand. tekhn.nauk, otv. red.;
DOBSHITS, M.L., red. izd-va; GUS'KOVA, O.M., tekhn. red.

[Technical and economic problems in air transportation]
Tekhniko-ekonomicheskie problemy vozdushnogo transporta.
Moskva, Izd-vo Akad.nauk SSSR, 1961. 103 p. (MIRA 15:2)
(Aeronautics, Commercial)

PETROV, V.I.

Unified transportation system of the U.S.S.R. Zhel.dor.transp.
43 no.11:8-15 N 61. (MIRA 14:11)

1. Zamestitel' direktora Instituta kompleksnykh transportnykh
problem Gosekonomsoвета SSSR.
(Transportation)

RETROV, V.I. (Moscow); BATAI, Andras (translator)

The Soviet Union's uniform transportation system. Kozl. társaság
no.12:529-535 D 162.

1. Szovjetunió Gazdasági Államtanácsa Komplex Kereskedelmi Problémák
Intézetének igazgatóhelyettese (Dr. Petrov).

DMITRIYEV, V.I . doktor ekonom.nauk; PETROV, V.I., kand.tekhn.nauk

Distribution of shipments among the various types of transportation. Zhel.dor.transp. 44 no.11:24-29 N '62.

(MIRA 15:11)

(Transportation)

L 50232-65 ENT(d)/ENP(1) Pg-4/Pk-4/Pl-4/Pol-4/Pq-4/ IJP(o) BG

ACCESSION NR: AP5008679

S/0144/65/000/002/0180/0186
621-52+65.014.134

AUTHOR: Petrov, V. I. (Senior lecturer of aviation automation and computer engineering department)

TITLE: Control of transient processes in moving objects

SOURCE: IVUZ. Elektromekhanika, no. 2, 1965, 180-186

TOPIC TAGS: transient process, aircraft

ABSTRACT: This problem is theoretically considered: an automatically controlled plant (such as a landing or taking-off aircraft) having n interdependent output variables x_1 and m controlling organs y_1 is in an initial state x_{01} at the initial time moment t_0 ; the plant should be transferred into a specified state x_{e1} by the time moment t_e . This method is used for solving the above problem: by selecting some definite laws of variation of m coordinates out of the total number n , the laws of variation of the rest of the $n-m$ coordinates can be determined

Card 1/2

29
28
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ACCESSION NR: AP5008679

from the fact that all coordinates are interdependent. Specifically, the article examines: (1) Methods for selecting and calculating the parameters for the above definite laws and (2) Plant behavior under disturbance conditions. The definite laws are presented as a linear combination of elementary functions. Errors caused by the disturbances are estimated. Orig. art. has: 3 figures and 37 formulas.

ASSOCIATION: Rzhskiy institut inzhenerov grazhdanskogo vozdukhmogo flota
(Riga Institute of Engineers for Civil Air Fleet)

SUBMITTED: 03Jun64

ENCL: 00

SUB CODE: AC

NO REF SOV: 002

OTHER: 000

Card 2/2

L 05826-67 EWT(m) IJP(c)
ACC NR: AT6031330 SOURCE CODE: UR/3163/66/000/008/0022/0025

AUTHOR: Vasil'yer, R. D.; Dorofeyev, G. A.; Petrov, V. I.; Pimenov, M. I.;
Shevchenko, V. F.

TITLE: The method of similarity of radiation fields used in the adjustment of
neutron radiometers

SOURCE: Soyuznyy nauchno-issledovatel'skiy institut priborostroyeniya. Doklady,
no. 8, 1966. Primeneniye metoda podobiya radiatsionnykh poley pri nastroyke
neytronnykh radiometrov, 22-25

TOPIC TAGS: radiometer, gamma radiation, neutron flux density, all wave
counter/RUP-1 radiometer, KPN-1 radiometer, KDUS-1M radiometer

ABSTRACT: A method is described for adjusting radiometers by using the
similarity of radiation fields produced by neutron sources. The methods were
tested with an all-wave counter and RUP-1, KPN-1, and KDUS-1M radiometers.
The discrimination threshold in all instruments was set up so as to make it possible
to discount the effect of gamma radiation. The results of the adjustment of neutron
radiometers by the method of similarity of the radiation fields were compared with
the results of the calibration of the same subrange. In all cases, the results of the

Card 1/2

UDC: 539.1.075.2:539.125.5

L 05824-67

ACC NR: AT6031330

adjustment and the calibration coincided within the limits of measurement error. The economic advantage of the method of similarity for the adjustment of radiometers is evident. In this case, the limits of radiometer calibration extend two or three times, the measurement time is reduced, and working conditions are safer from radiation. This compensates for the small decrease in the accuracy of the determination of neutron flux density with radiometers adjusted by the similarity method.

SUB CODE: 20, 18/ SUBM DATE: 05Jan66/

kh

Card 2/2

L 05827-01 54T(m) 1:1F(c)

ACC NR: AT6031329

SOURCE CODE: UR/3163/66/000/007/0016/0022

AUTHOR: Vasil'yev, R. D.; Dorofeyev, G. A.; Petrov, V. I.; Pimenov, M. I.; Shevchenko, V. F.

ORG: none

TITLE: Calibration of radiometers of thermal neutrons in a diffused stream

SOURCE: Soyuznyy nauchno-issledovatel'skiy institut priborostroyeniya. Doklady, no. 7, 1966. Graduirovka radiometrov teplovykh neytronov v diffuznom potoke, 16-21

TOPIC TAGS: radiometer, thermal neutron, RUP-1 radiometer

ABSTRACT: A method is described for calibrating RUP-1 radiometers with a minimum of 10% accuracy. Results of calibration of thermal neutrons in a diffuse field and in a directed stream were compared. It was found that radiometers calibrated in a directed stream showed a reduced magnitude during measurements in a diffuse field. As a rule, diffuse fields occur in real conditions, therefore, readings of radiometers calibrated in a directed stream must be increased during

Cord 1/2

UDC: 539.1.075.2:539.1.089.6:539.125.5

L 05827-67

ACC NR: AT6031329

measurements in diffuse fields. Readings of the RUP-1 radiometer for instance, must be increased by approximately 30%. Orig. art. has: 6 formulas.

SUB CODE: 20/ SUBM DATE: 05Jan66/ ORIG REF: 003/ OTH REF: 004/

kh

Card 2/2

ACC NR: AP3015774

(A, N)

SOURCE CODE: UR/0048/66/030/005/0817/0822

AUTHOR: Pavlyuchenko, O. P.; Petrov, Y. I.

ORG: Physics Department, Moscow State University im. M.V.Lomonosov (Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta)

TITLE: On the distinctive features of electron-optical systems for observation of magnetic microfields by the transmission technique Report, Fifth All-Union Conference on Electron Microscopy held in Sumy 6-8 July 1965

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 5, 1966, 817-822

TOPIC TAGS: electron microscopy, electron microscope, magnetic domain structure, magnetic field

ABSTRACT: The authors discuss the measures to be taken to record with good resolution the domain structure of thin ferromagnetic films by the electron transmission (shadow) technique with the aid of one of the following Soviet electron microscopes: EM-3, EM-5, EM-7, UEM-100, and UEMV-100. To record domain structure one must either employ off-center apertures or baffles, or work with the microscope out of focus; only defocused operation is discussed in the present paper. Increasing the defocusing increases the sensitivity for recording weak magnetic fields but reduces the resolution. To obtain good resolution with the shadow technique it is important to make the diameter of the electron beam at the object as small as possible. This can be accomplished by reduc-

Card 1/2

ACC-NR: AP6015774

ing the diameter of the aperture and/or by increasing the power of the condenser lens. Different measures are indicated in employing different microscopes. It is desirable to protect the object from the magnetic field of the objective lens; this can be accomplished by increasing the distance of the object from the lens and simultaneously reducing the power of the lens. How this is best accomplished in the different microscopes is discussed briefly. The paper closes with a few remarks on stroboscopic operation and preparation of thin films. A number of electron micrographs of magnetized Permalloy films recorded under different conditions are presented. The authors thank G.Y. Spivak for a valuable discussion. Orig. art. has: 6 figures.

SUB CODE: 20/

SUM DATE: 00/

ORIG REF: 001/

OTH REF: 010

Card 2/2

PETROV, V.I.

Distr: 4E43/4E20

18 27 27 27
Composition diagram of the Na_2AlF_6 - Li_2AlF_6 - Al_2O_3 system, V. I. Petrov, *Dokl. Akad. Nauk SSSR*, 1995-8 (1957). The Na_2AlF_6 - Li_2AlF_6 - Al_2O_3 system was studied by cooling curves and by thermograms obtained with Kurnakov's pyrometer (differential Pt-PtRh thermocouples). The m.p.s. of Na and Li cryolites were $1012 \pm 4^\circ$ and $782 \pm 3^\circ$, resp. The binary system Na_2AlF_6 - Li_2AlF_6 consists of 3 branches terminating at the eutectic, in 710° , of 82 wt. % Li_2AlF_6 . Presence of solid solns. or of NaLiAlF_6 was not detected. The system Li_2AlF_6 - Al_2O_3 has a eutectic, in $775 \pm 3^\circ$, of 0.7% Al_2O_3 . This point could not be located by the visual method of Drossbach (C.A. 30, 4093). The ternary system was investigated with 5 planes contg. 12-18% Al_2O_3 and the following proportions of Na_2AlF_6 - Li_2AlF_6 : 9:1, 8:2, 7:3, 6:4, and 5:5. Three fields of initial crystals, originating at the eutectics of the 3 binary systems met at the ternary eutectic, which was so close to the binary eutectics that it could not be located accurately. The soly. of Al_2O_3 in the cryolite mixt. decreased but a range for practical electrolysis contained 69% Na_2AlF_6 , 25% Li_2AlF_6 , and 7% Al_2O_3 , in 680° .

J. Denckwitz

EM Jk

ACC NR: AP6035904

SOURCE CODE: UR/0413/66/000/020/0145/0145

INVENTOR: Taybuk, B. S.; ~~Petrov-Onegin~~, V. I.; Fovolotskiy, E. L.; Yurovskiy, V. S.; Komaritskiy-Kuznetsov, V. K.; Sapershteyn, B. D.

ORG: none

TITLE: Device for studying elastic seals. Class 42, No. 187379 /announced by the Scientific Research Institute of the Rubber Industry (Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti)/

SOURCE: Izobreteniya, promyshlennyye obraztzy, tovarnyye znaki, no. 20, 1966, 145

TOPIC TAGS: hermetic seal, sealing device, seal test device, test facility, test method

ABSTRACT: An Author Certificate has been issued for a device for studying elastic seals, which includes a transparent shaft and a device for fastening the test parts onto it. To study the behavior of the elastic-seal surface in contact with the shaft, the shaft is made hollow, with a conical inner surface (coaxial with its outer surface), and contains a light source. In order to record the behavior of the elastic-seal surface in contact with the shaft, it is equipped with a motion-picture camera. Orig. art. has: 1 figure. [WA-98]

SUB CODE: 13/ SUBM DATE: 24Jun65/

Card 1/1

UDC: 678.06-762 678.05.016 620:162

OYKS, G.N.; SOKOLOV, G.A.; ZIL'YEV, I.M.; PETROV, V.K.; ZUBAREV, A.G.;
KLEIMACHIN, P.S.

Treatment of liquid transformer steel in the ladle. Stal'
25 no.8:711-715 Ag '65. (MIRA 19:8)

183200

22313

S/133/61/000/001/002/015
A054, A127

AUTHORS: Rutes, V. S., Candidate of Technical Sciences; Katomin, B. N., Engineer; Kan, Yu. Ye., Engineer; Petrov, V. K., Engineer, and Lobanov, V. V., Engineer

TITLE: Adopting the process of the continuous casting of carbon steel at the Novo-Lipetsk metallurgicheskii zavod (Novo-Lipetsk Metallurgical Plant)

PERIODICAL: Stal', no. 4, 1961, 311 - 317

TEXT: Two units for continuous casting of carbon steel have been in operation in the Novo-Lipetsk Metallurgical Plant since 1959 and 1960, respectively. The units used for casting 150 x 620, 150 x 770 and 170 x 1020 mm slabs are arranged vertically (TsNIIChM-design), the pits are 16.5 m deep, while the 90-ton ladle is mounted 9 m above the workshop floor. Metal is poured into the crystallizer via a 5 - 7-ton intermittent ladle. The unit consists of two independent machines, each containing a crystallizer, secondary system, pulling stands, gas cutters, discharge devices (Fig. 1). The intermittent ladle is provided with spouts, (28 - 30 mm in diameter),

Card 1/5

22313

S/133/61/000/004/002,015
AC54/A127

Adopting the process of the continuous casting...

in accordance with the composition of the steel. The crystallizer consists of double-sheet walls, 1.5 m long, the inner sheet is made of chromium-bronze ($\text{BrXp0.6} = \text{BrKhr0.6}$), the outer of steel. Cooling water is supplied at a rate of 150 - 250 cu m/h to flow between the sheets. The crystallizer reciprocates vertically over 20 mm (downward) by means of a roller-system, synchronously with the slab, while its upward motion is 3-times faster than that of the slab. The inoculator (9 m long) has a special groove on its upper part (in the crystallizer), ensuring strong bond with the slab. The cooling device, 6.5 m long, is provided with frames, connected with 120-mm diameter rolls. The frames can be adjusted to the slab size. The cooling area is divided into 3 zones, the water flow can be independently controlled on each side and for each zone. Water consumption as a function of slab section-size and type of metal varies between 30 and 75 cu m/h. The slabs are removed from the crystallizer by pulling equipment consisting of four 300-mm diameter guiding beams, which are pressed to the slabs by means of a hydraulic system (40 - 60 atmospheres). Immediately after discharging the slabs are cut to pieces 6 - 8 m long, by 2 oxy-acetylene cutters with 3-m stroke. The equipment is completed with a roll-over machine and conveying

Card 2/5

22313

Adopting the process of the continuous casting... S/133/61/000/004/002/015
A054/A127

facilities. As this was the first continuous casting machine of such large size, literature gave no indications as to its operation. In the beginning 150 x 620 mm slabs were cast and in the first month not one out of 12 ladles could be poured completely, while in the second month out of 18 ladles 6 could be poured. Operation had to be interrupted mostly due to the trouble with the intermittent ladle, some other parts of the equipment and the formation of slabs observed under the discharge device. This drawback could be eliminated by improving secondary cooling conditions. Also the faulty operation of the spouts, rupture of the plugs could be eliminated. A frequent cause of trouble was the tendency of the metal to break through under the crystallizer, mainly by the slag inclusions which are difficult to remove from the narrow side of slabs. The crystallizer operation was often affected by water-leakage through the sheets, due to their burning out. The greater the slabs, the simpler and easier the casting process. Since November 1959, 170 x 1020 mm slabs have been produced from killed carbon steel. The amount of faulty castings was reduced from 30.4% to 2.9% in 8 months. The temperature of the liquid metal in the 90-ton ladle was tested in the 1580° - 1640°C range. The optimum temperatures are 1600° - 1620°C. Below 1600°C there is the risk of the metal clogging the spouts of the inter-

Card 3A

22313

S/177/61/000/004/000/015
AC54/A127

Adopting the process of the continuous casting...

mittent ladle, whereas above 1630°C rupture of the metal under the crystallizer and longitudinal fractures on the broad sides of the slab can be expected. The optimum pouring speed for 150 x 620 mm (A) slabs was 0.85 - 0.90 m/min, for 150 x 770 mm (B) slabs: 0.75 - 0.80 m/min and for 170 x 1020 mm (C) slabs: 0.50 - 0.60 m/min. The metal consumption - in the same sequence - was: A: 550 - 610 kg/min, B: 690 - 740 and C: 700 - 850 kg/min. When pouring under the lowest rate, the spouts of the intermittent ladle tend to get clogged and due to the longer pouring time, the operation of the ladle-stoppers was affected. An increase of the pouring rate above the maximum (0.90 m/min) may result in rupture of the metal under the crystallizer. For cooling water consumption (in the crystallizer) the following values were found (in cu m/h): slabs A: 150 - 200; slabs B: 195 - 210; slabs C: 225 - 250. Water consumption for secondary cooling, (in cu m/h): slabs A: 31 - 41, slabs B: 37.5 - 41, slabs C: 44 - 52. Heat dissipation, (10⁶ cal/h): slabs A: 1.7; slabs B: 1.9; slabs C: 2.0. In the early operation of the equipment waste was considerable: in November 1959 26.4%. The main defects are longitudinal cracks, leaks, beads, slag inclusions, etc. Longitudinal surface cracks appeared frequently which could be prevented by pouring the

Card 4/5

22313

S/133/61/000/004/002/015

Adopting the process of the continuous casting... A054/A127

metal into the crystallizer eccentrically, at 250 mm from the thin wall of the crystallizer and by applying the optimum sulfur and carbon content of the metal. At a carbon content of 0.14% and a sulfur content below 0.01%, no cracks formed; at 0.17% carbon content the allowed sulfur content is 0.020%. The other types of defects could be eliminated by improving the operation of the intermittent ladle, stoppers, etc. Bead formation was prevented by maintaining the required level of the metal in the crystallizer; by reducing the coating of the intermittent ladle and improving the removal of slag the amount of slag inclusions were reduced. In March 1960, the rate of flawless 170 x 1020 mm slabs from killed carbon steel was as high as 94 - 96%, the maximum waste: 1.9%. The slabs were rolled into 2.5 - 3.0 mm and 10 - 25 mm sheets and it was found that sheets of cast slabs have the same plasticity and surface-quality as those made of rolled slabs. Mechanical properties, microstructure and macrostructure of the cast slabs meet the standard requirements. There are 4 figures and 2 tables.

ASSOCIATION: TsNIICM and Novo-Lipetskiy Metallurgicheskiy zavod (Novo-Lipetsk Metallurgical Plant)

Card 5/8.5

22313

RUTES, V.S., kand.tekhn.nauk; KATOMIN, B.N., inzh.; KAN, Yu.Ye., inzh.;
PETROV, V.K., inzh.; LOBANOV, V.V., inzh.

Mastering the process of continuous casting of carbon steel at the
Novyy Lipetsk Metallurgical Plant. Stal' 21 no. 4:311-317 Ap '61.
(MIRA 14:4)

1. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy
metallurgii i Novolipetskiy metallurgicheskiy zavod.
(Novyy Lipetsk—Continuous casting)

GRYAZNOV, N.S., kand.tekhn.nauk; PETROV, V.K.

Coking of coals under gas pressure. Koks i khim. no.1:30-35 '60.
(MIRA 13:6)

1. Vostochnyy uglekhimicheskiy institut.
(Coal--Carbonization)

21

ca

A new apparatus for the measurement of vertical settling of the coking mixture. L. I. Erkin and V. K. Petrov. *Zarodskaya Lab.* 12, 84-92(1948). —An iron disk rests on the top of the coke-oven charge, and its movement is automatically registered during the coking process. At the beginning of coking, the height of the charge decreased rapidly, then slowly, and after 2 hrs. the rate of settling was stabilized into a uniform slope. Towards the end of the coking process the settling rate increased. Three references.

ROVENSKIY, Semen Yakovlevich; CHKHEIDZE, Grigoriy Davidovich;
PETROV, Viktor Konstantinovich; LIBKIND, Azariy Samuilovich;
~~BALIKHIN~~, M.I., nauchn. red.; SHITOVA, L.N., red.

[Operational planning in construction by stages and complexes]
Operativnoe planirovanie v stroitel'stve po etapam i kompleksam.
[By] S.IA.rovenskii i dr. Moskva, Stroiizdat, 1964. 115 p.
(MIRA 17:6)

BRON, V.A.; SIMONOV, K.V.; PIVNIK, L.Ya.; PETROV, V.K.; BARVINSKIY, B.V.

Lining the walls of 100-ton arc furnaces with magnesite brick
and a spinel binding. Stal' 23 no.6:519-523 Je '63.
(MIRA 16:10)

OSTROUKHOV, M.Ya.; PANCHENKO, S.I.; Prinimali uchastiye: FRISHBERG, V.D.;
PETROV, V.K.; RESHETKO, A.; VIATKIN, G.P.; BRATCHENKO, V.P.;
POFANOV, A.A.; MILYAYEV, M.N.; PRIVALOV, V.Ye.; MUSTAFIN, F.A.;
PUSHKASH, I.I.; LAZAREV, B.L.

Experimental blast furnace smelting using coke from wet
preparation coals. [Sbor. trud.] Nauch.-issl.inst.met.
no.4:63-70 '61. (MIRA 15:11)

1. Vostochnyy uglekhimicheskiy institut (for Ostroukhov, Panchenko,
Frishberg, Petrov, Reshetko). 2. Nauchno-issledovatel'skiy institut
metallurgii (for Vyatkin, Bratchenko). 3. Nizhne-Tagil'skiy
metallurgicheskiy kombinat (for Privalov, Mustafin, Pushkash,
Lazarev).

(Blast furnaces—Testing)
(Coke—Testing)

PETROV, VADIM KONSTANTINOVICH

DECEASED

1960/1

c1961

SEE ILC

ELECTRICAL ENGINEERING

PETROV, Vadim Konstantinovich [deceased]; SHLYAPINTOKH, Lev
Samoylovich; GETLING, B.V., nauchn. red.; MUPKINA,
V.G., red.

[Collection of problems in electrical engineering with
industrial electronics fundamentals] Sbornik zadach po
elektrotekhnike s osnovami promyshlennoi elektroniki.
Moskva, Vysshaya shkola, 1965. 174 p.

(MIRA 18:7)

MEINIKOV, A.V.; LIVENTSKY, F.L.; PETROV, V.M.; KOSIN, A.K.

High-temperature cooling of the LOGK-1 gas motor compressor.

Trudy LPI no.221:153-165 '62.

(MIRA 14:2)

(Compressors--Cooling) (Gas, Natural--Transportation)

PETROV, V. M.

Dielectric and nonlinear properties of Rochelle salt at
superhigh frequencies. Kristallografiia 7 no.3:403-407
My-Je '62. (MIRA 16:1)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

(Rochelle salt) (High-frequency research)

SOV/120-50-4-36/50

AUTHOR: Petrov, V. M.

TITLE: Recording of Thermal Conditions in Calorimeters by Means of a Photo-Compensation Amplifier

PERIODICAL: Priory i tekhnika eksperimenta, 1959, Nr 4, pp 143-144 (USSR)

ABSTRACT: In determination of thermal properties of materials it is necessary to know the cooling or heating curves of calorimeters. Such curves are usually obtained by reading off visually the deflection of a mirror galvanometer to which a differential thermocouple of the calorimeter is connected (Ref 1). The e.m.f. of the differential thermocouple can be recorded quite precisely using a photo-compensation voltage amplifier of high zero stability, high input impedance and high sensitivity. In this way e.m.f.'s corresponding to even 100-ths of a degree can be recorded. The circuit is shown in Fig 1. The difference between the e.m.f. of the differential thermocouple ΔT and the potential from a voltage source $\mathcal{M}$ (a dry element with a voltage divider or a potentiometer) is applied to the input of the photo-compensation amplifier $\mathcal{U}_y$. The sensitivity of the circuit is regulated at the output by a voltage divider R_g

Card 1/4

SOV/120-59-4-36/50

Recording of Thermal Conditions in Calorimeters by Means of a Photo-Compensation Amplifier

(Fig 1a), if an electronic potentiometer $\mathfrak{E}\eta$ is used as the final indicator. If a recording milliammeter CM or a string oscillograph $\mathfrak{W}\mathfrak{O}$ is used instead of the electronic potentiometer, a variable stunt $R_{\mathfrak{W}}$ (Fig 1b) is

employed to control the sensitivity. If the output current of the photo-compensation amplifier has an alternating component (which would effectively prevent the use of a string oscillograph), an RC filter is placed at the amplifier output. Fig 2 shows a cooling curve of an α -calorimeter (an aluminium cylinder of 7.5 mm dia and 70 mm length) recorded by means of a 3-string Siemens oscillograph. The calorimeter was heated to 99.7°C and was cooled in still water at 27.9°C. The thermal inertia constant of the calorimeter was 2.1 sec and its heat loss rate was 9.100 kcal m⁻²hr⁻¹deg⁻¹. The curve of Fig 2 was obtained using a photo-compensation amplifier based on the LM instrument (Ref 2); other photo-

Card 2/4

SOV/120-59-4-36/50

Recording of Thermal Conditions in Calorimeters by Means of a Photo-Compensation Amplifier

compensation amplifiers, such as F16, may be used. The total error in recording of the cooling or heating curves of calorimeters does not exceed 0.5% provided the inertia of the recording part of the system can be neglected. This accuracy can be achieved in recording durations of up to two hours provided that the amplifier input impedance is not less than 100 ohms. The method described makes it possible to obtain cooling curves more accurately than by visual observation of the galvanometer deflections and is far less laborious. Moreover, the method enables

Card 3/4

SOV/120-59-4-36/50

Recording of Thermal Conditions in Calorimeters by Means of a Photo-Compensation Amplifier

us to use calorimeters with low thermal inertia. There are 2 figures and 2 Soviet references. NOTE: This is a complete translation.

ASSOCIATION: Moskovskiy aviatsionnyy institut (Moscow Aviation Institute)

SUBMITTED: May 21, 1958.

Card 4/4

S/194/62/000/006/193/232
D288/D308

94330

AUTHORS: Vorontsov, Yu.I., Petrov, V.M., and Rzhevkin, K.S.

TITLE: Measurement of tunnel diode parameters

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1962, abstract 6-4-63 p (V sb. Poluprovodnik pribory i ikh primeneniye, no. 7, M., sov. radio, 1961, 115-126)

TEXT: Methods of measuring tunnel diode (TD) parameters are described. An equivalent circuit of TD is assumed as shown in the Figure. A bridge circuit was used which enabled oscillographic observation of the volt-amp characteristic; to plot the static characteristic point by point; to measure the differential resistance of TD at any point of its volt-amp characteristic. The measurement of the differential capacitance was undertaken by resonance method at frequencies in 5 - 20 Mc/s range. The measurement of parasitic parameters L , r and C_n was done at UHF with a coaxial test line. Measurement of these parameters of a TD as a LF network was done at 1 Gc/s; for Card 1/2

Measurement of tunnel diode parameters

S/194/62/000/006/103/232
D288/D308

a TD as a UHF network - at 3 Gc/s. Measuring methods are described and discussed, the fundamental circuits for the TD connection for various measurements are given, a table of parameters of several samples is included. 2 references. [Abstracter's note: Complete translation.]

Card 2/2

KHAMRABAYEV, I.Kh., doktor geol.-miner. nauk; RADZHABOV, F.Sh.;
GOR'KOVY, O.P.; SALOV, F.I.; KOZYREV, V.V.; PETROV, V.M.;
USMANOV, F.A.; ISAMUKHAMEDOV, I.M., doktor geol.-min. nauk;
KUSTARNIKOVA, A.A.; BORISOV, O.M.; RAKHMATULLAYEV, Kh.R.;
MUSAYEV, A.M.; SVIRIDENKO, A.F.; SULTAN-UIZ-DAG; GOLOVIN,
Ye.M., kand. geol.-miner. nauk; VIS'NEVSKIY, Ya.S., kand.
geol.-miner. nauk, red.; NURATDINOVA, M.A., red.; ASTAKHOV,
A.N., red.

[Petrography of Uzbekistan] Petrografiia Uzbekistana.
Tashkent, Izd-vo "Nauka" UzSSR. Book 1. 1964. 445 p.
(MLA 18:1)

1. Akademiya nauk Uzbekskoy SSR, Tashkent. Institut geologii
i geofiziki.

PETROV, V.M.

Spray nozzle for air humidification in air conditioners. Let.
prom. no.2:34-35 April '64 (MIRA 17:87)

9.4320(1301, 1147, 1163, 2901)

0071

S/115/62/000/002/007/009
E192/E382

AUTHORS Zaks L.M., Petrov, V.M. and Belikov Ye N

TITLE Improving the insensitivity of thermistor wattmeters for UHF

PERIODICAL Izmeritel'naya tekhnika, no 2, 1962, 43 - 48

TEXT The main factor limiting the sensitivity and accuracy of thermistor wattmeters for UHF is the instability of its indications due to the instability of the temperature of the thermistor and the instability of its heater current. A method of increasing the sensitivity of a thermistor power-meter is described in the following. This is based on the use of temperature compensation and a special galvanometer stabilizer which results in a very high stability of the supply current for the measurement circuit. The methods of temperature compensation of thermistor meters for UHF power are usually based on a coaxial compensating thermistor whose resistance is dependent only on the temperature of the surrounding medium and is practically independent of the current flowing through the thermistor. The condition of compensation is achieved if

Card 1/4

Improving the . . .

S/115/62/000/002/007/009
E192/E382

during temperature changes of the thermistor holder (i.e. temperature of the measuring and compensating thermistors), the changes in the resistance of the compensating thermistor result in a change in the current of the measuring thermistor and the power dissipated in it, such that its temperature and resistance are kept constant. The method of temperature compensation, devised at VNIIFTRI is based on the use (Ref. 4 Zaks and Petrov - Authors Certificate no. 670724/26, June 20, 1960) of an inertia-type compensating thermistor placed in the thermistor holder. This thermistor is in direct contact with the holder and is at the same temperature as the measuring thermistor. The compensating thermistor is connected not in the supply network of the measuring bridge but in the circuit of the reference voltage of a stabilizer feeding the bridge. In this way it is possible to reduce to a negligible value the power dissipated in the compensating thermistor and thus to increase the efficiency of the temperature compensation in comparison with the other known methods (Ref. 1 - Measurement techniques at centimetre waves, Part II. Pub. Sovetskoye radio Moscow 1942

Card 2/5

Improving the

S/115/62/000/002/007/009
E192/E382

Ref. 3 - R.A. Valitov and V.N. Sretenskiy - Radio measurements at ultrahigh frequency, Voenizdat, 1958) The compensating circuit operates as follows. When the temperature of the thermistor-holder is changed, the temperature of the measuring and compensating thermistors, which are in the same thermal conditions, changes accordingly. The change in the resistance of the compensating thermistor, which is connected in the reference circuit of the voltage-stabilizer, leads to a change in the stabilized voltage and this results in a change of the current in the measuring transistor and the power dissipated in it. The temperature of the measuring thermistor and resistor is therefore unchanged. Consequently, when the temperature of the holder is varied, the balance of the thermistor bridge and the indication of the power-meter are unchanged. The reference-voltage divider, which is connected in the feedback loop of the voltage-stabilizer, is in the form of an unbalanced bridge (see Fig. 1), whose output "diagonal" contains the reference-voltage source e and a galvanometer Γ . The e.m.f. of the reference element is connected "against" the voltage of the

Card 3/5

Improving the ...

S/115/62/000/002/007/009
E192/E382

output diagonal of the bridge. The galvanometer stabilizer circuit is illustrated in Fig. 2. The system has three correction circuits. The capacitance $C_{k1} = 0.1 \mu F$ is connected in the diagonal of a photo-resistor bridge circuit and its purpose is to suppress the oscillations of 50 kc/s frequency. The low-frequency oscillations are suppressed by the network consisting of the capacitance $C_{k3} = 1 \mu F$ and resistance r_3 as well as the correcting network consisting of the capacitance $C_{k2} = 1 \mu F$ and a variable resistance $R_{k2} = 47 k\Omega$. This circuit is connected between the input of a DC amplifier consisting of transistors T_1 , T_2 and the output of the control transistor R_3 . The input voltage of the power stage of the stabilizer is additionally stabilized by an auxiliary transistor stabilizer based on an emitter-follower T_4 whose reference voltage is provided by a pair of reference diodes.

Card 4/5

ACCESSION NR: AT3013121

S/2589/62/000/065/0013/0020

AUTHOR: Zaks, L. M.; Petrov, V. M.

TITLE: New method of temperature compensation of thermistor microwave wattmeters

SOURCE: USSR. Komitet standartov, mer 1 izmeritel'ny*kh priborov, Trudy* institutov Komiteta, no. 65, 1962, 13-20

TOPIC TAGS: microwave power, microwave wattmeter, thermistor, thermistor wattmeter, temperature compensation

ABSTRACT: A new method is described for adjustable thermal compensation of thermistor wattmeters with the aid of an inertial thermistor, connected in the feedback circuit of the stabilizer feeding the measuring bridge. The development of this method is brought about by the fact that the customary method of connecting the compensation thermistor directly in the bridge supply circuit cannot be used for universal high-accuracy thermistor bridges intended to operate over a wide frequency range, in view of the intolerably large power dissipated in the compensation thermistor. The new method ensures the possibility

Cord 1/12

ACCESSION NR: AT3013121

of exact adjustment of the thermal compensation by determining the change in the readings of the wattmeter. The design of the circuit is described and the test results reported. The instability does not exceed 0.05 microwatt per minute. Orig. art. has: 4 figures and 6 formulas.

ASSOCIATION: VNIIFTRI

SUBMITTED: Jul61

DATE ACQ: 28Oct63

ENCL: 02

SUB CODE: EE

NO REF SOV: 003

OTHER: 001

Cord

2/12

05073-67 FWT(1)

ACC NR: AP6013260

SOURCE CODE: UR/0413/66/000/008/0050/0050

AUTHOR: Petrov, V. M.

ORG: none

TITLE: A nonlinear dielectric capacitor. ²⁵ Class 21, No. 180699

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 8, 1966, 50

TOPIC TAGS: electric capacitor, variable capacitor, dielectric capacitor

ABSTRACT: This Author Certificate presents a nonlinear dielectric capacitor. The capacitor is of the varicond type with a small capacitance. The capacitor has a film with the main electrodes and the control electrode applied to it. To obtain a minimum capacitance, the main electrodes are applied to one side of the film with a space between them. The control electrode is applied to the other side of the film over the spot where the space is located. When this is done, the width of the control electrode is selected somewhat larger than the width of the space between the main electrodes. To eliminate the electric breakdown of the capacitor between the main electrodes either through the air or along the surface of the film, the space between the main electrodes is coated with a protective dielectric.

SUB CODE: 09/ SUBM DATE: 09Jun65

Card 1/1

UDC: 621.319.42

ACC NR: AT6036470 SOURCE CODE: UR/0000/00/000/000/0015/0.16

AUTHOR: Alkatov, Yu. A.; Kovalev, Ye. Ye.; Petrov, V. M.; Skvortsov, S. S.;
Smirennyy, L. N.

ORG: none

TITLE: Analysis of the results of measurements of cosmic-radiation doses in
circumterrestrial space [Paper presented at the Conference on Problems of Space
Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy
kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii,
Moscow, 1966, 15-16

TOPIC TAGS: radiation dosimetry, cosmic radiation, solar flare, thermoluminescent
dosimeter, radiation shielding, manned spaceflight, photodosimeter, ILK dosimeter

ABSTRACT:

The results of measurements of radiation in space taken at altitudes
of 200-400 km have been analyzed. Dosimetry was performed by means

Cord 1/3

L 08274-67-

ACC NR: AT6036470

3

of thermoluminescent integral dosimeters, ILK plates, and photodosimeters. The composition of radiation was studied using a set of nuclear photoemulsions. Dose measurement and study of the composition of radiation was performed behind polyethylene shielding of varying thickness. In addition, some of the thermoluminescent dosimeters were located behind lead, tin, and cadmium filters.

Polyethylene shielding blocks were spherical, with wall thicknesses of 5, 10, and 15 cm. Sets of dosimeters and photoemulsions were placed inside the shielding blocks as well as outside of them at four different points inside the cabin of the satellite.

The experiments established that the average cosmic-radiation dose amounted to between 16 and 20 mrad/diem. It was found that the thickness of shielding and the filters did not have a significant effect on the size of the dose. The doses obtained are in general agreement with doses obtained earlier on the Vostok spaceships.

Card 2/3

L 08274-67

ACC NR: AT6036470

The consistency of the doses obtained during the 1961—1965 period can be explained by the fact that on the trajectories in question the magnetic field of the Earth shields practically all of the low-energy spectrum of galactic radiation. Consequently, the main part of the dose was composed of high-energy particles whose intensity does not depend on solar activity to any great degree. This fact also explains the small changes in dose behind various thicknesses of shielding. / W.A. No. 22; ATD

Report 66-116/

SUB CODE: 22,18,06 / SUBM DATE: 00May66

Card 3/3 vmb

ACC NR; AP6034553

SOURCE CODE: UR/0421/66/000/005/0152/0156

AUTHOR: Petrov, V. M. (Moscow); Chernous'ko, F. L. (Moscow)

ORG: none

TITLE: Determination of the shape of liquids in equilibrium under the effect of g-forces and surface tension

SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no.5, 1966, 152-156

TOPIC TAGS: hydrostatics, fuel, ~~weightlessness, fuel tank,~~ hydrodynamics, ~~fuel supply system,~~ gravitation field, fluid surface, incompressible fluid, surface tension

ABSTRACT: The hydrostatics and hydrodynamics of liquids subjected to gravitational and surface forces is of interest in connection with the study of the behavior of liquids in weak gravitational fields and under conditions of weightlessness. In the present study, the shape of the contact surface between two liquids in a vessel was analyzed in the presence of gravitational and surface forces by the method of local variations developed previously by the author (Chenoushko, F. L., Metod lokal'nykh variatsiy dlya chislennogo resheniya variatsionnykh

Card 1/4

ACC NR: AP6034553

zadach. Zh. vychislit. matem. i matem. fiziki, 1965, t.5, no.4.). It was assumed that a stationary vessel containing two incompressible fluids with surface tensions σ_1 and σ_2 and densities ρ_1 and ρ_2 is located in a uniform field of mass forces. The walls of the vessel are assumed to be cylindrical. In the absence of surface tension, the shape of the contact surface is flat. Fig. 1 shows the representations used in the formulation of the problem. In the diagram, $z(x,y)$ is the displacement of the contact surface above the plane xy ; D is the projection of the surface S on the surface xy .

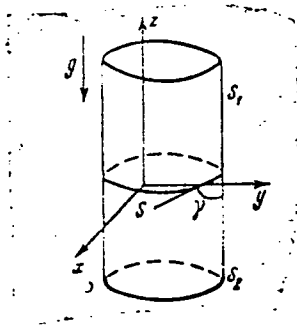


Fig.1 Representations used for formulation of problem

Card 2/4

ACC NR: AP0034553

The solution was based on the minimization of the two functionals:

$$\Pi(u) = \iint_D \left(\sqrt{1 + u_x^2 + u_y^2} + \frac{B}{2} u^2 \right) dx dy - \cos \gamma \int_{\Gamma} u dl$$

$$J(v) = \Pi(v) + \lambda V(v) = \iint_D \left(\sqrt{1 + v_x^2 + v_y^2} + \frac{B}{2} v^2 + \lambda v \right) dx dy - \cos \gamma \int_{\Gamma} v dl$$

where $u=z/l$; $B = \frac{(\rho_2 - \rho_1) g l^2}{\sigma}$ (Bond number); $v(x, y)$ represents a minimum of the functional $J(v)$; and Γ is the boundary of D . Numerical computer calculations were made for the regions of D in the square $0 < x < 1, 0 < y < 1$ and in the rectangle $0 < x < 1, 0 < y < 2$. Some of the results are shown in Figures 2 and 3.

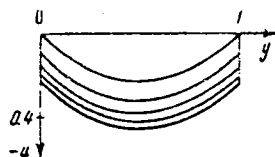


Fig.2. Cross sections at $x=0, 0.1, 0.2, 0.3$, and 0.5 of the same free surface calculated for the square $B=2$ and $\alpha=60^\circ$.

Card 3/4

ACC NR: AP6034553

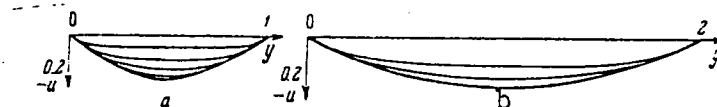


Fig.3 Dependence of the solution on the Bond number a-For Bond numbers 200,40,4.1,0.1; b-Bond numbers 20,4.1. The figure shows that with decreasing B the curvatures of the free surface increases; at $B=1$ and $B=0.1$, the surfaces are close to each other. This shows that with decreasing B , the free equilibrium surface rapidly approaches the shape at $B=0$, i.e., at weightlessness. The method of local variations can also be used for a vessel of arbitrary shape. Orig.art. has: 15 formulas and 5 figures.

[WA-88]

SUB CODE: 20/ SUBM DATE: 09Jun66/ ORIG REF: 008/ OTH REF: 000/
SOV REF: 000

Card 4/4

ACC NR: AP7000775

SOURCE CODE: UR/0208/66/000/0006/0047/0961

AUTHORS: Banichuk, N. V. (Moscow); Petrov, V. M. (Moscow); Chernous'ko, F. L. (Moscow)

ORG: none

TITLE: A numerical solution of variational and boundary problems by the method of local variations

SOURCE: Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 6, no. 6, 1966, 947-961

TOPIC TAGS: numerical solution, variational problem, dynamic programming, algorithm, digital computer, variational calculus

ABSTRACT: An algorithm for numerical solution of variational problems for functions of two independent variables is presented. The algorithm makes use of the method of local variations (F. L. Chernous'ko. Metod lokalnykh variatsii dlya chislennogo resheniya variatsionnykh zadach. Zh. vychisl. matem. i matem. fiz., 1966, 5, No. 4, 749--754). The variational problem is stated as: It is required to find a function of two variables $u(x, y)$, defined in the domain D of the xy plane, satisfying the constraints $u = g(x, y)$ on C and

$$(x, y, u) \in U, \text{ in } D,$$

$$(x, y, u, u_x, u_y) \in G \text{ in } D,$$

Card 1/2

DDC: 519.3:518

ACC NR: AP7000775

and minimizing the functional

$$I = \int \int_D f(x, y, u, u_x, u_y) dx dy.$$

The subscripts x and y denote partial derivatives; C - the boundary of D (a closed edge); U - a given set in three-dimensional space x, y , and u ; G - a given set in the five-dimensional space x, y, u, u_x, u_y ; f, G - given functions. The logic of the algorithm is broken down into specific steps which correspond to subprograms of a computerized routine. Several problems of this type were analyzed on a "Strela" digital computer. Some example solutions are demonstrated. The authors express thanks to I. A. Krylov and S. A. Solov'yeva for their attention to the development of the program. Orig. art. has: 28 equations and 8 figures.

SUB CODE: 12/ SUBM DATE: 14Dec65/ ORIG REF: 008/ OTH REF: 002

Card 2/2

L 42161-66 EWP(j)/EWT(m)/T RM/RH

ACC NR: AP6021608

SOURCE CODE: UR/0020/66/168/005/1082/1084

AUTHOR: Terent'yev, A. P. (Corresponding member AN SSSR); Rukhadze, Ye. G.;
Kharakhorin, F. F.; Petrov, V. M.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Diffuse reflection spectra of polychelates

SOURCE: AN SSSR. Doklady, v. 168, no. 5, 1966, 1082-1084

TOPIC TAGS: chelate compound, light reflection coefficient

ABSTRACT: Considering that polychelates (high molecular compounds containing metals) are finely dispersed colored compounds sparingly soluble in organic solvents, the authors chose the method of diffuse reflection spectra to establish the correlation between the structure of a chelate or polychelate and its optical characteristics (reflection coefficient). Copper chelates were investigated. The spectra were taken with the instruments SF-10 (visible) and IKS-12 with an IPO-12 attachment (infrared), and found to be similar for the monomer and corresponding polymer. Polychelates obtained at higher temperatures were found to have a more regular network structure than those obtained at lower temperatures. It is concluded that the study of diffusion reflection spectra constitutes a reliable method for identifying the structure of the chelates (network, linear) and determining the degree of its perfection. Authors thank O. D.

Card 1/2

UDC: 543.4.422.4

L 42161-66

ACC NR: AP6021608

Yesayashvili for participating in the experiments, and Z. V. Zvonkov and V. M. Vozzhennikov for a useful discussion. Orig. art. has: 3 figures and 1 table.

SUB CODE: 07/ SUBM DATE: 24Nov65/ ORIG REF: 006/ OTH REF: 001

ms
Card 2/2

L 32057-66 EWT(m)/EWP(t)/ETI IJI(c) RDW/JD

ACC NR: AP6013355 (N)

SOURCE CODE: UR/0363/66/002/004/0772/0774

AUTHOR: Annamamedov, R.; Berger, L. I.; Petrov, V. M.; Kharakhorin, F. F.

ORG: Institute of Chemical Reagents and High-Purity Substances, Moscow (Institut khimicheskikh reaktivov i osobo chistykh veshchestv)

TITLE: Optical and photoelectric properties of the ternary semiconducting compounds Cu_3AsSe_4 and Cu_3SbSe_4

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 4, 1966, 772-774

TOPIC TAGS: copper compound, arsenic compound, selenium compound, antimony compound, semiconductor crystal, photoconductivity, forbidden zone width

ABSTRACT: Continuing their systematic investigations of ternary semiconducting compounds of diamondlike structure, the authors undertook a study of the spectral distribution of diffuse reflection and photoconductivity of the compounds Cu_3AsSe_4 and Cu_3SbSe_4 , polycrystalline samples being used. The apparatus for measuring the distribution of diffuse reflection and the spectral distribution of the photoconductivity is described. The shape of the curves of diffuse reflection show that the compounds studied are semiconductors. At room temperature, the forbidden gap width determined from the start of the linear segment is 0.88 eV for Cu_3AsSe_4 and 0.31 eV for Cu_3SbSe_4 . Only the latter compound displayed photoconductivity; its forbidden gap width at 77K is about 0.65 eV, as determined from the spectral characteristic of the photoconductivity. The results indicate that the replacement of the relatively light arsenic atoms by

Card 1/2

UDC 537.311.33

L 32057-66

ACC NR: AP6013355

heavier atoms (antimony) in the lattice of an $A_3B^IVC_4^{VI}$ -type compound leads to a decrease of the forbidden gap width. The authors are sincerely grateful to N. A. Goryunova for interest in this work and to L. A. Zheleznaya and S. N. Mikhaleva for participating in the experiments. Orig. art. has: 4 figures.

SUB CODE: 07, 20 SUBM DATE: 19Jun65 / ORIG REF: 003 / OTH REF: 002

Card 2/2 20

(A) L 27318-66 EWT(d)/EWT(m)/EWP(f)/T-2

ACC NR: AM6001048

Monograph

UR/

D'yachenko, N. Kh.; Kostin, A. K.; Mel'nikov, G. V.; Petrov, V. M.; Kharitonov, B. A.

Theory of internal combustion engines² (Teoriya dvigateley vnutrennogo sgoraniya) 58
 Moscow, Izd-vo "Mashinostroyeniye," 1965. 459 p. illus., biblio. Textbook for
 students specializing in internal combustion engines at institutions of higher BH
 learning. Errata slip inserted. 16,000 copies printed.

TOPIC TAGS: internal combustion engine, carburization, engine combustion system,
 engine performance characteristic, engine exhaust system

PURPOSE AND COVERAGE: This book is published as a textbook for students in higher
 technical educational institutions and can also be used as a handbook for engine-
 design engineers and their technical staffs. It gives an analysis of the internal
 combustion engine and its applications, from agricultural equipment (stationary
 and mobile) through automotive and marine uses. A thorough description of turbo-
 superchargers and engine power rating is included. Fuel and cooling systems and
 their characteristics are also discussed. This book was prepared by the internal-
 combustion-engines faculty of the Leningrad Polytechnical Institute im. M. I.
 Kalinin. The authors appear in the following order: B. A. Kharintovich, chapters I
 and IX; G. V. Mel'nikov, chapters II and VII (Except subheading 4 and 5 in chapter
 VII); N. Kh. D'yachenko, chapters III and VI (Except subheading 4 in chapter VI);
 V. M. Petrov, chapters IV and V (Except subheading 1 and 4 in chapter V);
 A. K. Kostin, chapters VIII, X, and subheading 4 in chapter VII; B. P. Pugachev,
 subheading 1 and 4 in chapter VI; Yu. N. Isakov, subheading 5 in chapter VII.

Card 1/3

UDC: 621.43.001(075.8)

L 27318-66

ACC NR: AM6001048

TABLE OF CONTENTS [abridged]:

Introduction -- 3

Basic notations -- 5

I. Working principle and working cycles of internal combustion engines -- 7

II. Ideal and theoretical cycles -- 32

III. Working cycle of the internal combustion engine -- 79

IV. Process of intake, exhausting, and scavenging in two-cycle engines -- 134

V. Carburetion process -- 191

VI. Fundamentals of the combustion process theory in engines -- 250

VII. Engine supercharging -- 279

VIII. Heat transfer in engines, and the combustion intensity of the working cylinder -- 321

IX. Engine performance and characteristics -- 358

Card 2/3

L 27318-66

ACC NR: AM6001048

X. Automatic control of internal combustion engines -- 406

Appendix -- 455

References -- 456

SUB CODE: 21/ SUBM DATE: 16Jul65/ ORIG REF: 026/

Card

3/3

PETROV, V.M.

Experimental study of the voltage curves of three-phase synchronous generators in single-phase operation. Trudy Vses. politekh. inst. no. 138:147-151 '64. (MIRA 19:1)

(A) L 13564-66 EWT(m)/ETC(F)/ENG(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c)

ACC NR: AP6001234 SOURCE CODE: UR/0363/65/001/012/2167/2169
RDW/JD

AUTHOR: Kharakhonin, F. F.; Boyarintsev, P. K.; Petrov, V. M.

ORG: none

TITLE: Study of alloys of the $\text{Cd}_{0.05}\text{Hg}_{0.95}\text{Te}$ system

SOURCE: AN SSSR. Izvestiya. *Neorganicheskiye materialy*, v. 1, no. 12, 1965, 2167-2169

TOPIC TAGS: cadmium alloy, mercury alloy, tellurium alloy, semiconductor alloy, electric conduction, photoconductivity, photo emf, photomagnetic effect, single crystal growth, absorption coefficient, temperature dependence, spectral distribution

ABSTRACT: Polycrystalline ingots of the alloy $\text{Cd}_{0.05}\text{Hg}_{0.95}\text{Te}$ were synthesized from cadmium telluride and mercury telluride and used to grow single crystals by Bridgman's method. The temperature dependence of the electrical conductivity and Hall coefficient were determined. All the samples had n-type conductivity at room temperature; at liquid nitrogen temperature, most displayed p-type conductivity, but the purest ones had n-type conductivity and an acceptor concentration of 10^{18} cm^{-3} . The spectral distribution of the absorption coefficient was measured on polished samples 0.1 — 0.2 mm thick. The dependence of this coefficient on the photon energy in the 0.13 — 0.16 eV range permitted the calculation of the "optic" energy gap, which amounted to about 0.07 eV at room temperature. The photoconductivity, photo-emf, and photomagnetic effect were also measured on some samples at room and liquid nitrogen temperatures. A change in the cooling conditions (immersion in water)

Card 1/2

UDC: 546.3-19'48'49'42

L 13564-66

ACC NR: AP6001234

showed that the photothermomagnetic effect prevails at room temperature. At 77K, the ratio of electron to hole mobility for a series of p-type samples is about 80, and the carrier lifetime calculated from data on the photomagnetic effect is less than 10^{-10} sec. Authors thank D. I. Arnol'd for his participation in the measurements. Orig. art. has: 3 figures.

SUB CODE: 11, 20 / SUBM DATE: 06Jul65 / ORIG REF: 001 / OTH REF: 004

L 13967-66 EWT(1)/EWA(h)

ACC NR: AP6005304

SOURCE CODE: UR/0413/66/000/001/0040/0040

INVENTOR: Petrov, V. M.

ORG: none

TITLE: SHF phase shifter. Class 21, No. 177474

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 1, 1966, 40

TOPIC TAGS: SHF propagation, microwave component, phase shifter

ABSTRACT: An shf phase shifter with electrical phase control is introduced. Design features are incorporated to reduce losses, increase the limit shf power, and reduce overall size. The device is designed in the form of a symmetrical strip line. A paraelectric or antiferroelectric plate serves as the electrically controlled reactive element. The control voltage is supplied to the reactive element through an electrode mounted in the center of the plate between the two conductors of the strip line. Orig. art. has: 1 figure. [DW]

SUB CODE: 09/ SUBM DATE: 30Sep64/ ATD Press: 4/9/

Cord 1/1

UDC: 621.372.852.21

KHARAKHORIN, F.F., BOYABINTSEV, P.K., PETROV, V.M.

Alloys of the composition $\text{Cd}_{0,05}\text{Hg}_{0,95}\text{Te}$. 1zv. AN SSSR.
Neorg. mat. 1 no.12:2167-2169 D '65. (MIRA 18:18)

1. Submitted July 6, 1965.

VVFIDENSKIY, A. I. and PROBY V. M.

1. J. H. Kohn, *Reactions of Aliphatic Amines*, Part 1, *Chem. Rev.*, **39**, 403, 1952; 1954; 1956; 1958. (MIRA 18 10)

2. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh
professov. Submitted Sept. 11, 1964.

1 9292-66 EWT(1)/EWA(h)

ACC NR: AP8028136

SOURCE CODE: UR/0048/85/029/011/2121/2124

AUTHOR: Petrov, V.M.

ORG: Friendship of Nations University in: Patrice Lumumba (Universitet druzhby narodov)

TITLE: On the possibility of realizing a UHF paraelectric amplifier with an ultra-low noise level *Report, Fourth All-Union Conference on Ferroelectricity held at Moscow-on-the-Don, 12-18 September 1987*

SOURCE: AN SSSR, Izvestiya, Seriya fizicheskaya, v. 29, no. 11, 1985, 2121-2124

TOPIC TAGS: UHF amplifier, low noise amplifier, parametric amplifier, paraelectric material, *dielectric property, dielectric constant*

ABSTRACT: The possibility is discussed of realizing a very low noise-level parametric UHF amplifier by employing a capacitor with a nonlinear dielectric of paraelectric material at a temperature somewhat above the Curie point. The nonlinear dielectric properties of paraelectric materials are due to polarization saturation, which sets in at attainable field strengths at temperatures not far above the transition point. Since no domain structures can be involved, the variation of the dielectric constant persists to very high frequencies. The thermodynamic theory of V.L.Ginzburg (Uspekhi fiz. nauk, 38, 490 (1949)) is employed to discuss the relation of the dielectric constant to the bias field, and it is concluded that by using paraelectrics with a per-

Cord 1/2

I 9292-66

ACC NR: AP5028136

ovskite structure one can amplify millimeter waves by using appropriate bias fields and pumping powers. The noise level of such an amplifier is determined only by the Nyquist noise associated with the circuit losses. It is calculated that the equivalent noise temperature of such an amplifier would be approximately 10K when operating at room temperature and 0.1K when operating at liquid nitrogen temperature. By employing a dielectric with a negative Curie point, such as CaTiO_3 , one could operate at liquid helium temperature and achieve an equivalent noise temperature of 0.001K. The results of an attempt by R.A.Purcel, D.Leib, B.D.Campbell, and D. Masse (Proc. IEEE, 51, 1660 (1963)) to realize an experimental paraelectric amplifier did not appear promising because these authors used a large capacitor of unsuitable material. In order to construct satisfactory paraelectric amplifiers it would be necessary to produce varicaps from pure materials, as described in a patent disclosure by the author (Avt. svid. No. 167546 of 9 sentyabrya 1963 g.). Orig. art. has 4 formulas and 1 table. [15]

SUB CODE: 09, 10 / SUBM DATE: none / ORIG REF: 007 / OTH REF: 006 / ATD PRESS:

4/53

CC
Card 2/4

PETROV, V.M.

A meeting with our readers. Avtom., telem. i svyaz' 9 no. 8:40-1 1965.
(MIRA : 1:9.

1. Neshtatnyy korrespondent zhurnala "Avtomatika, telemekhan'ika i svyaz'".

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240510020-6

As a result of the above, the following information is being provided to you for your information. The information is being provided to you for your information. The information is being provided to you for your information.

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240510020-6"

ZAKS, L.M.; BELIEV, Ye.N.; KRYZHEV, I.V.; POKH, I.V.

Thermistor bridge with automatic nulling and zero correction. Izv. vuzov. Radiofizika, 1984, 27, No. 1, p. 14-15, 144.

L 3194-66 EWT(d)/EWT(1)/EEC(k)-2/EWA(h)

ACCESSION NR: AP5015495

UR/0286/65/000/008/0027/0027
621.314.12

AUTHOR: Petrov, V. M. ⁴⁴

TITLE: Bolometric meter for measuring shf power ^{9m} Class 21, No. 170086 ¹⁸

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 27

TOPIC TAGS: bolometer, microwave power measurement ⁴⁴, shf power meter, thermistor

ABSTRACT: The proposed meter utilizes a metallic or semiconductor bolometer and is designed in the form of a double-bridge circuit. To obtain a linear scale over a wide range of measured power and to improve measurement accuracy, the input of the square-law converter is connected to the circuit of the shf power source. The converter output, in series with a resistor in the source circuit, is connected to the indicator of the power meter. A block diagram of the meter is shown in Fig. 1 of the Enclosure. Orig. art. has: 1 figure. [DW]

ASSOCIATION: none

SUBMITTED: 20Feb63

ENCL: 01

SUB CODE: EC

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4033

Card 1/2

L 3194-66

ACCESSION NR: AP5015495

ENCLOSURE: 01

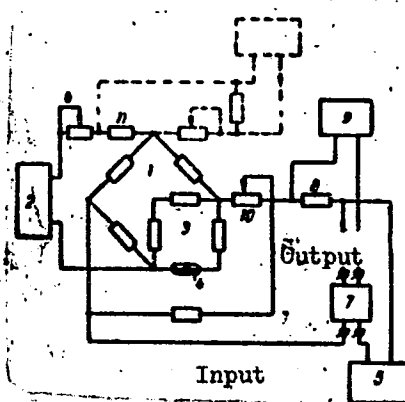


Fig. 1. Bolometric meter for shf power,

1 - External bridge; 2 - stable voltage source; 3 - internal bridge; 4 - thermometer or bolometer; 5 - compensating-current source; 6 - resistor; 7 - converter; 8 - resistor; 9 - indicator; 10 - bypass resistor; 11 - resistor.

PC

Card 2/2

L 3801-66

ACCESSION NR: AP5025585

UR/0115/65/000/009/0041/0043

621.317.733.023

AUTHOR: Zaks, L. M.; Belikov, Ye. N.; Rypalev, S. V.; Petrov, V. M. 10
B

TITLE: A thermistor bridge with automatic digital readout and automatic zero correction

SOURCE: Izmeritel'naya tekhnika, no. 9, 1965, 41-43

TOPIC TAGS: thermistor, power meter, resistance bridge, digital readout system

ABSTRACT: A self-balancing thermistor bridge is described in which the upper limit of accuracy is raised by using an automatic digital readout system, and the threshold of sensitivity is lowered by adding automatic zero correction to the system. The automatic digital power readout is based on the use of a measuring multiplier which uses the pulse-time method for multiplying two dc voltages taken from the measurement circuit of the bridge. At the output of the multiplier is an analog-digital converter which changes the voltage to a proportional time interval, and an electronic meter which shows these intervals in digital form. The method for automatic zero correction is based on periodic blanking of the modulator for the shf chan-

Card 1/2

L 3801-66

ACCESSION NR: AP5025585

nel and automatic balancing of the measurement system when the power is blocked by means of an electronic servosystem which "remembers" the current level for heating the thermistor. The power reading is fixed directly after automatic zero correction to improve accuracy. A schematic diagram of the instrument is shown and the operating principles are described in detail. The bridge is designed for measuring powers in three ranges up to 10, 100 and 1000 μW . The measurement error is 0.3% at the maximum power readings. The instrument can also be used for measuring small power values of the order of a few μW with an error of less than 0.03 μW . Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: EC

NO REF SOV: 007

OTHER: 001


Card 2/2

L-2597-66 EWI(1)/EEC(k)-2/EWA(h)

ACCESSION NR: AP5019199

UR/0115/65/000/006/0041/0043

621.317.733.023

AUTHOR: Zaks, L. M.; Petrov, V. M.; Belikov, Ye. N.

TITLE: M4-3 self-balancing thermistor d-c bridge for measuring shf power

SOURCE: Izmeritel'naya tekhnika, no. 6, 1965, 41-43

TOPIC TAGS: thermistor bridge, dc bridge, shf wattmeter / M4-3 thermistor bridge

ABSTRACT: A newly developed portable M4-3 shf thermistor bridge, which is an improvement of the older M4-1 type, has a d-c double-bridge circuit, a direct reading on a ferrodynamic-wattmeter scale, and an autocompensation system. Its measurement scope is 5-7500 μ w; basic error, $1.5 \pm 0.3\%$; zero-point drift, 0.3 μ w; supply, 220 v 50 cps; weight, 25 kg. The double thermistor bridge consists of an external supply bridge in one of whose arms an internal measuring bridge is inserted. The shf measuring thermistor forms an arm of the internal

Card 1/2

L 2597-66

ACCESSION NR: AP5019199

bridge. A simplified diagram of the M4-3 bridge is supplied. "These men took part in the development of the instrument and building prototypes: A. D. Selivanovskiy, A. K. Tomashevskiy, A. F. Lukashev, A. H. Razorenov, A. V. Alushkov, and I. I. Suchkov." Orig. art. has: 2 figures and 1 table.

ASSOCIATION:

SUBMITTED: 00

ENCL: 00

SUB CODE: EC

NO REF SOV: 004

OTHER: 000

MC
Card 2/2

PETROV, V.M.

Dielectric properties of the antiferroelectric PbZrO_3 in the
ultrahigh frequency region. Izv. AN SSSR. Ser. fiz. 79 no.6:
933-936 Je '65. (MIRA 18:6)

1. Vafedra radiofiziki Universiteta druzhby narodov imeni
Patrisa Lumumby.

1-57842-65 EWT(1)/REC-4/EWA(h) Feb 00

ACCESSION NR: AP5015257

UR/0286/65/000/009/0037/0037
621.314.21/23.023

AUTHOR: Petrov, V. M.

TITLE: Shf filter switch. Class 21, No. 170560

SOURCE: Syulleten' izobrazheniy i tovarnykh znakov, no. 9, 1963, 37

TOPIC TAGS: filter switch, varicond, paraelectric varicond

ABSTRACT: The proposed shf filter switch utilizes either a regular or reflector-type cavity with an electrically controlled natural frequency. To improve switch parameters, a paraelectric varicond is connected at the loop of the electric field of the cavity. The control voltage is applied to one of the varicond plates which is insulated from the cavity structure. Orig. art. has: 1 figure. [DW]

ASSOCIATION: none

SUBMITTED: 13Feb64

ENCL: 00

SUB CODE: EC

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4036

Card 1, 1/1

57040-65 EWT(1)/EPA(s)-2/EWT(m)/EPF(n)-2/EEC(c)/EMP(1)/EMP(b) Pt-7/Ps-4/Fl-
 LIP(s) 11/11/10/65

ACCESSION NR: AP5016123

UR/0048/65/029/006/0933/0936

AUTHOR: Petrov, V.M.

TITLE: Ultrahigh frequency dielectric properties of antiferroelectric lead zirconate /Report, 4th All-Union Conference on Ferroelectricity held in Rostov-on-the-Don 12-18 Sept 1964/

SOURCE: AN SSSR. Izvestiya. Ser. Fizicheskaya, v. 29, no. 6, 1965, 933-936

TOPIC TAGS: antiferroelectric material, dielectric constant, ultrahigh frequency, lead zirconate

ABSTRACT: The dielectric constant of PbZrO_3 was measured at several frequencies between 5×10^5 and 3×10^9 cycle/sec over a range of temperatures including the Curie point. The measurements were undertaken to obtain information concerning the ultrahigh frequency behavior of antiferroelectrics, which might be of theoretical interest as well as of help in assessing the potential of ferroelectrics in ultrahigh frequency technology. The measurements were made by the coaxial line me-

Card 1/3

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ACCESSION NR: AP5016123

thod described elsewhere by I.V.Ivanov and the author (Izv.AN SSSR Ser.fiz.22,1524,1958). The temperature was measured with an accuracy of 1° and the dielectric constant with an accuracy of 5%. At temperatures well below the Curie point there was no perceptible frequency dependence of the dielectric constant, and the dielectric loss increased only slightly at the higher temperatures. This behavior is quite different from that of ferroelectrics. At temperatures well above the Curie point there was also no dielectric dispersion and the dielectric loss remained moderate (the loss tangent was about 0.03). In this region, therefore, ferroelectrics and antiferroelectrics behave similarly. In the transition region there was considerable dielectric dispersion and the maximum dielectric loss was an order of magnitude greater at the highest frequency than at the lowest. The application of an electric field led to an increase of the dielectric constant in the antiferroelectric phase. In the paraelectric phase the effects of a bias field were similar to the effects of such a field in the case of a ferroelectric. The observed phenomena are discussed briefly from a theoretical point of view. It is concluded that

Card 2/3

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ACCESSION-NR: AP5016123

for ultrahigh frequency applications antiferroelectrics have over ferroelectrics the advantages of no dispersion, low losses, greater thermal stability, and a relatively low dielectric constant. "In conclusion, we express our deep gratitude to S.A.Fedulov and other members of the IREA staff for preparing the lead zirconate ceramic for our measurements." Orig.art.has: 3 figures.

ASSOCIATION: Kafedra radiofiziki Universiteta druzhby narodov im. Patrice Lumumby (Radiophysics Department, Patrice Lumumba University of the Friendship of Nations)

SUBMITTED: 00

ENCL: 00

SUB CODE: SS, 7C

NR REF SOV: 002

OTHER: 001

Card 3/3

PERSHIN, V.I., inzh.; PETROV, V.M., inzh.; BULAVITSKIY, Y.M., inzh.

Don't let it be a thing of the past.
rate. Elek. sta. 35 MVA. 1950. 1/10.

PETROV, Valeriy Maksimovich, aspirant; SIVOCV, N.S.

Experimental study of the voltage and current curves of three-phase synchronous generators with single-phase load. Izv. vuz. fiz. (1964) elektromekh. " no.1:49-52 '64. (MIRA 17:9)

1. Kafedra elektricheskikh mashin Ural'skogo politehnicheskogo instituta (for Petrov).

L 8522-65 EWT(1)/EWG(k)/T Pz-6 AFMDG/AFWL/AFETR/ASD(a)-5/SSD/AS(mp)-2/IJP(c)
ESD(gs)/ESD(t)/RAEM(t) AT
ACCESSION NR: AP4044972 S/0181/64/006/009/2867/2869

AUTHORS: Kharakhov, F. F., Petrov, V. M.

TITLE: Semiconductor properties of compounds of the type $A_2^I B^IV C_3^{VI}$

SOURCE: Fizika tverdogo tela, v. 6, no. 9, 1964, 2867-2869

TOPIC TAGS: group I element, group IV element, group VI element, photoconductivity, photoemf, photomagnetic effect, Hall effect, temperature dependence, electric conductivity

ABSTRACT: It is pointed out that there is still not enough information on the properties of the triple compounds in which A -- copper or silver, B -- silicon, germanium, tin, or lead, and C -- sulfur, selenium, and tellurium. The authors have therefore investigated a large group of compounds of this type, both in polycrystalline and in single-crystal form. The spectral distribution of the photoconductivity, the photo emf and the photomagnetic effect, and also the tem-

Card 1/2

L 8522-65

ACCESSION NR: AP4044972

5

perature dependence of the electric conductivity and of the Hall effect, were measured for the compounds Cu_2SnS_3 , Cu_2SnSe_3 , Cu_2GeSe_3 , Ag_2SnS_3 , Ag_2SnSe_3 , and Ag_2GeSe_3 . Typical curves are shown and some differences between the compounds are discussed. The changes in the width of the forbidden band could be reconciled with theory in the case of compounds containing copper, but not in the case of compounds containing silver. "We thank R. V. Bakradze for supplying the copper and tin selenide samples, and graduate students of the Tbilisi University I. K. Abiyan, Yu. M. Orkodashvili, and E. V. Khutsishvili, for participating in the measurements." Orig. art. has: 2 figures and 1 table.

ASSOCIATION: None

SUBMITTED: 24Apr64

SUB CCDE: 88

NR REF SOV: 003

ENCL: 00

OTHER: 000

Card 2/2

L 22121-66 EWT(1)/EWT(m)/EWP(w)/EPF(n)-2/T/EWP(t) IJP(c) JD/JG/GG

ACC NR: AF6004921

SOURCE CODE: UR/0056/66/050/001/0069/0075

AUTHOR: Roginskaya, Yu. Ye.; Tomashpol'skiy, Yu. Ya.; Venevtsev, Yu. N.; Petrov, V. M.; Zhdanov, G. S.

ORG: Physicochemical Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: On the character of dielectric and magnetic properties of BiFeO_3

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. v. 50, no. 1, 1966, 69-75

TOPIC TAGS: bismuth compound, ferroelectric material, dielectric property, solid solution, Curie point, Neel temperature, magnetic property

ABSTRACT: This is a continuation of earlier work by the authors on BiFeO_3 (ZhETF v. 46, 1921, 1964). In view of the contradictory reports on the properties of BiFeO_3 , especially with respect to its ferroelectric properties, the authors analyze the published data and in addition carried out a more detailed investigation of the dielectric properties and the structure of BiFeO_3 in a broad range of temperatures, as well as of solid solutions of this substance with $\text{PbFe}_{1/2}\text{Nb}_{1/2}\text{O}_3$. Particular attention is paid to the 400--500C region, and to the solid solution. The polycrystalline samples for the investigation were prepared by the usual ceramic techniques. The dielectric constant and the loss angle were measured at

Card 1/2